

Pressure and differential pressure measuring transducers
incl. connection set, (compact form), calibratable, with Y-adapter,
with Modbus connection (not galvanically isolated)

Calibrateable pressure sensor **PREMASGARD® 121x-Modbus-SD** (series), with Modbus connection (Y adapter), in an impact-resistant plastic housing with quick-locking screws, connection nozzle for pressure hose (Ø 6mm), optionally with /without display, for measuring pressure (max. ± 7000 Pa) in air. International system of units **SI** (default) can be changed to **Imperial** (via Modbus). Incl. connection set **ASD-06** (2m connection hose, two pressure port nipples, screws).

The pressure sensor is intended to measure positive, negative or differential pressure in clean air and gaseous media. It is used in clean-room, medical and filter technology, ventilation and air-conditioning ducts, spray booths, large-scale catering facilities, for filter monitoring and level measurement or for controlling frequency converters. A **pressure sensor** with a piezoresistive measuring element guarantees precise measurement results. The following parameters can be accessed via the Modbus: differential pressure [Pa] [inWC].

Modbus sensor SD with RS485 Modbus interface (not galvanically isolated), selectable bus termination resistance, DIP switch for setting the bus parameters and bus address in current-free state, internal LEDs for telegram status display (illuminated, with customised programming). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit as errors. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

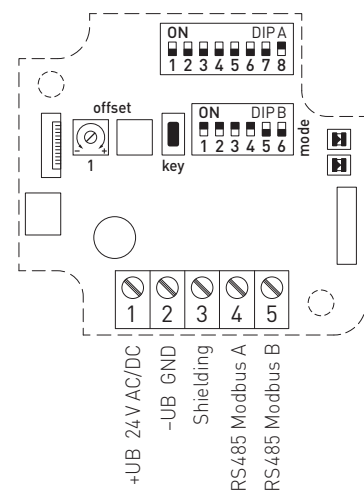
Power supply:	24 V AC (± 20 %) and 15...36 V DC
Power consumption:	< 1.0 W / 24 V DC; < 2.2 VA / 24 V AC
System of units:	SI (default) or Imperial (switchable via Modbus)
Data point:	Differential pressure [Pa] [inWC]
Type of pressure:	Differential pressure
Measuring range:	-500... +500 Pa or -7000...+7000 Pa depending on the type of device, see table
Accuracy:	Type 1218 (500 Pa): typical ± 13 Pa at +25 °C / +77 °F Type 1217 (7000 Pa): typical ± 105 Pa at +25 °C / +77 °F compared to the calibrated reference device
Zero point offset:	± 10 % measuring range
Above- / below-pressure:	max. 5 x measuring range
Hysteresis:	0.3 % of final value
Temperature drift values:	± 0.1 % per °C of final value
Linearity:	< ± 1 % of final value
Media contacting parts:	PA6, Duroplast, Si, epoxy, RTV, BSG, UV silicone gel
Media temperature:	-20...+50 °C / -4...+122 °F
Medium:	clean air and other non-aggressive, non-combustible gases
Bus interface:	RS485, not galvanically isolated , bus termination activatable via DIP switches. Up to 32 devices possible in one segment. In case of a greater number of devices, RS485 repeaters must be used.
Bus protocol:	Modbus (RTU mode), address range 0...247 selectable
Baud rate:	9600, 19200, 38400 Baud
Status indicator:	LED green = Telegram valid LED red = Telegram error
Signal filtering:	1 s / 10 s
Pressure connection:	with nozzles for pressure hose Ø 6 mm
Housing:	Plastic, UV-resistant, polyamide material, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable connection:	Cable gland , plastic 2x M 12 x 1.5 (Y-adapter); with strain relief, exchangeable, max. inner diameter 6 mm
Electrical connection:	0.14 - 1.5 mm², via terminal screws
Long-term stability:	± 1 % per year
Permissible air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP67 (according to EN 60 529), Housing in the built-in state, Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU
Features:	two-line display with illumination , programmable cutout approx. 36 x 15 mm (W x H), to display the actual pressure or an individually programmable display value
ACCESSORIES	see table

PREMASGARD® 121x-Modbus-SD compact form



Schematic diagram

PREMASGARD 121x-Modbus-SD



DIP A: Bus address
DIP B: Bus parameters
(Baud rate, parity ...)

 LED (internal status)
 Telegram indicator
Reception (LED green)
Error (LED red)

 Plug for display
(contact on right side)

 Offset correction
ca. ± 10 % of measuring
range [pressure]

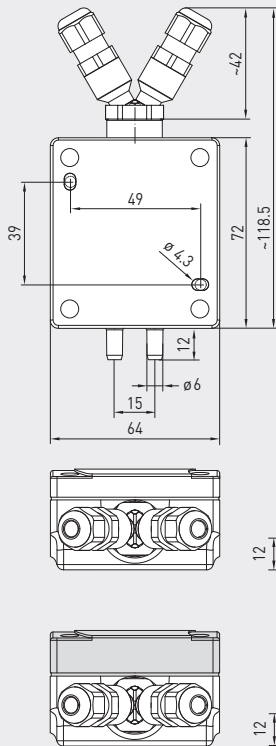
 Pushbutton
Zero point setting
(auto zero)



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Dimensional drawing
(mm)



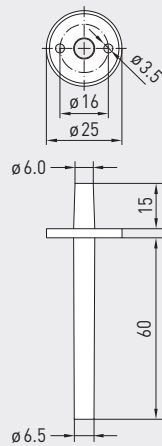
PREMASGARD® 121x-Modbus-SD
compact form

PREMASGARD® 121x-Modbus-SD
compact form
with display



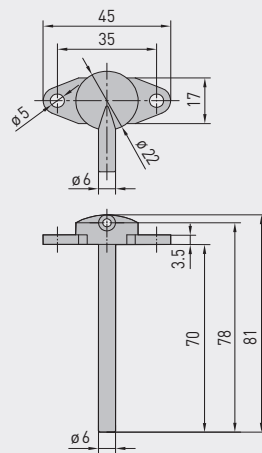
Dimensional drawing

ASD-06



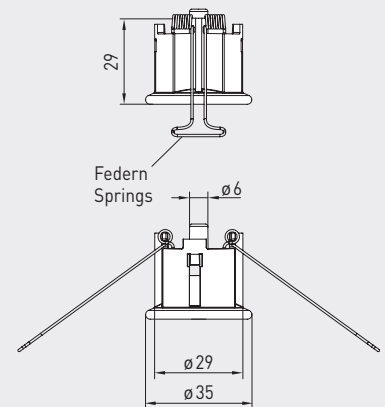
Dimensional drawing

ASD-07



Dimensional drawing

DAL-01



ASD-06
Connection set

ASD-07
Connection nipple

DAL-01
Pressure outlet



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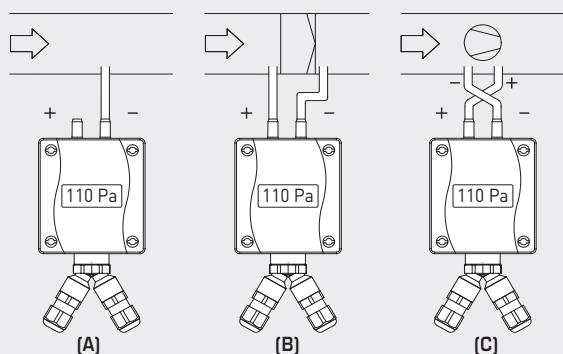
WS-04

Weather and sun protection hood
(optional)



Mounting diagram

PREMASGARD® 121x - Modbus-SD

**TYPES OF MONITORING:****(A) Below-atmospheric pressure:**

P1 (+) is not connected
but open against atmosphere
P2 (-) connected to inside of duct

(B) Filter:

P1 (+) connected upstream of filter
P2 (-) connected downstream of filter

(C) Ventilator:

P1 (+) connected downstream of ventilator
P2 (-) connected upstream of ventilator

Pressure connections at the pressure switch are marked with
P1 (+) for higher pressure and
P2 (-) for lower pressure.

ACCESSORIES

KA2-Modbus	Communication adapter (USB/RS485) for system connection	1906-1200-0000-100	236,11 €
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination	1906-1300-0000-100	88,05 €
ASD-06	Connection set (included in the scope of delivery) , consisting of 2 connection nipples (straight) made of ABS, 2 m PVC hose (soft, UV-resistant) and 4 screws	7100-0060-3000-000	8,43 €
ASD-07	2 connection nipples (at 90 degree angle) made of plastic, ABS	7100-0060-7000-000	8,43 €
DAL-01	Pressure outlet for ceiling or in-wall installation (e.g. in clean rooms)	7300-0060-3000-001	39,46 €
WS-04	Weather and sun protection hood , 130 x 180 x 135 mm, stainless steel V2A (1.4301)	7100-0040-7000-000	41,35 €
For further information, see chapter Accessories!			



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PREMASGARD® 121x - Modbus - SD		Pressure and differential pressure measuring transducer with Modbus connection (not galvanically isolated)			
Measuring range Pressure	Type / WG02	Output	Display	Item No.	Price
± 500 Pa / 2.0 inWC	Type 1218				
-500 ... +500 Pa -2.0 ... +2.0 inWC	PREMASGARD 1218-Modbus-SD	Modbus		1301-128H-0910-200	173,32 €
	PREMASGARD 1218-Modbus-SD LCD	Modbus	■	1301-128H-2910-200	227,22 €
± 7000 Pa / 28 inWC	Type 1217				
-7000...+7000 Pa -28...+28 inWC	PREMASGARD 1217-Modbus-SD	Modbus		1301-128H-0950-200	173,32 €
	PREMASGARD 1217-Modbus-SD LCD	Modbus	■	1301-128H-2950-200	281,61 €
Note:		System of units SI (default) or imperial (can be changed via Modbus).			